ELSEVIER

Toxicology 102 (1995) 322–324

TOXICOLOGY

Volume contents

Volume 102 (1995)

Numbers 1,2

Special Issue:

BIOLOGICAL MECHANISMS AND QUANTITATIVE RISK ASSESSMENT

Proceedings of a symposium sponsored by the Health Effects Research Laboratory of the U.S. Environmental Protection Agency (November 1–4, 1993)

Preface — R. Woodrow Setzer, Jr., L. Earl Gray, Jr. ix

INTRODUCTION 1

Research to strengthen the scientific basis for health risk assessment: a survey of the context and rationale for mechanistically based methods and models
K. Sexton, L.W. Reiter, H. Zenick (USA) 3

Part 1. RISK ASSESSMENT AND RESEARCH: SETTING THE STAGE 21

Assessing the risk assessment paradigm
G.S. Omenn (USA). 23
Historical perspective on risk assessment in the federal government
J.D. Graham (USA) 29
The future of mechanistic research in risk assessment: Where are we going and can we get there from here?
M.J. Goddard, D. Krewski (Canada) 53

Part 2. APPLYING MECHANISTIC RESEARCH TO RISK ASSESSMENT 71

Hepatic and pulmonary carcinogenicity of methylene chloride in mice: a search for mechanisms
R.R. Maronpot, T.R. Devereux, M. Hegi, J.F. Foley, J. Kanno, R. Wiseman, M.W. Anderson (USA, Switzerland, Japan) 73
Incorporating biological information in quantitative risk assessment: an example with methylene chloride
H.J. Clewell III (USA). 83

0300-483X/95/$09.50 © 1995 Elsevier Science Ireland Ltd.
All rights reserved

Use of quantitative modelling in methylene chloride risk assessment
L. Rhomberg (USA) 95
Dioxins: model chemicals for assessing receptor-mediated toxicity
M.J. DeVito, L.S. Birnbaum (USA) 115
Biologically-based models of dioxin pharmacokinetics
L.A. Buckley (USA) 125
Biochemical mechanisms and cancer risk assessment models for dioxin
M.C. Kohn (USA) 133

Part 3. BIOLOGICAL MECHANISMS AND THEIR APPLICATION TO CANCER RISK ASSESSMENT 139

Incorporating cell proliferation kinetics into models for cancer risk assessment
S.H. Moolgavkar, E.G Luebeck (USA) 141
Cell proliferation in the bladder and implications for cancer risk assessment
S.M. Cohen (USA) 149
Comparison of experimental and theoretical parameters of the Moolgavkar–Venzon–Knudson incidence function for the stages of initiation and promotion in rat hepatocarcinogenesis
Y.P. Dragan, J. Hully, K. Baker, R. Crow, M.J. Mass, H.C. Pitot (USA) 161

Part 4. BIOLOGICAL MECHANISMS AND THEIR APPLICATION TO NON-CANCER RISK ASSESSMENT 177

Cancer and non-cancer risk assessment: not so different if you consider mechanisms
R.B. Conolly (USA) 179
Pharmacokinetics and receptor-mediated pharmacodynamics of corticosteroids
W.J. Jusko (USA) 189
Toxicity prediction from metabolic pathway modelling
R.C. Jackson (USA) 197
Biological modeling of 5-fluorouracil developmental toxicity
D.L. Shuey, R.W. Setzer, C. Lau, R.M. Zucker, K.H. Elstein, M.G. Narotsky, R.J. Kavlock, J.M. Rogers (USA) 207
Regulatory and research issues related to cholinesterase inhibition
S. Padilla (USA) 215

Part 5. EMERGING RESEARCH AREAS IN HEALTH EFFECTS RISK ASSESSMENT . 221

Negative selection in hepatic tumor promotion in relation to cancer risk assessment
M.E. Andersen, J.J. Mills, R.L. Jirtle, W.F. Greenlee (USA) 223
Risk assessment and biological mechanisms: lessons learned, future opportunities
R.O. McClellan (USA) 239

Number 3

In vitro murine embryotoxicity of cyclophosphamide in embryos co-cultured with maternal hepatocytes: development and application of a murine embryo-hepatocyte co-culture model (Maternal bioactivation is required for murine cyclophosphamide embryopathy)
T.R.S. Ozolins, L.A. Oglesby, M.J. Wiley, P.G. Wells (Toronto, Canada; Research Triangle Park, NC) 259–274

Porphyrin production and excretion by long-term cultures of adult rat hepatocytes and effect of lead exposure **(Porphyrin excretion appears to be a sensitive indicator of Pb toxicity)**
B. Quintanilla-Vega, A. Hernández, Ma.L. López, G. García-Vargas, M.E. Cebrián, T. Mendoza-Figueroa (Mexico City, Mexico) 275–283

Cadmium and mercury toxicity in a human fetal hepatic cell line (WRL-68 cells) **(The system responds differently to the two metals)**
L. Bucio, V. Souza, A. Albores, A. Sierra, E. Chávez, A. Cárabez, M.C. Gutiérrez-Ruiz (Mexico City, Mexico) 285–299

Immunotoxicity

Role of interferon-γ in contact hypersensitivity assessed in interferon-γ receptor-deficient mice **(Ear swelling to oxazolone or TNCB is not reduced in IFN-γ knock-out mice, but dermal mononuclear infiltrates and epidermal microabscesses are diminished suggesting that contact hypersensitivity is partially dependent on a functional IFN-γ system)**
M. Saulnier, S. Huang, M. Aguet, B. Ryffel (Schwerzenbach, Zürich, Switzerland) 301–312

Contents of journals relating to toxicology 313–316
Author index 317
Subject index 318–321
Volume contents 322–324